



# *Prepare for Cold Air!*

## **Directions & Worksheet**

Prepare for a SnowSchool visit to Craters of the Moon by learning about insulation, an important animal adaptation for winter survival. Observe the difference in heat loss between a well-insulated object and a poorly-insulated object. Afterwards you will know how to prepare for a winter snowshoe hike.



*Rabbits grow thicker fur coats to prepare for winter's cold.*

### **Directions**

1. Prepare the cans. Remove labels and rinse out, if necessary. Place one can on the table with the open end down.



2. Add insulation. Place sock on can or glue cotton balls, quilt batting, or other insulation onto the surface. If using cotton balls, fluff them out once the glue has dried.

3. Fill the cans with warm water. Try to start with water that is close to normal human body temperature, about 98° to 100°F. Use water from the same container or faucet to fill both cans so the starting temperature is the same for each. Fill each can with an equal amount of water.

4. Measure the water temperature. Measure and record the initial water temperature without letting the thermometer touch the side of the can.

5. Place the cans outside. The cans can be placed anywhere (sun, snow, shade, pavement, etc.) as long as both cans are in the same location.

6. Record the water temperatures for 30 minutes. Measure and record the temperature on the table on page 6 for each can every 5 minutes. Use the graph on page 6 or make your own to show the change in temperature for each can.

7. Answer the questions on page 7.





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Name \_\_\_\_\_

1. Write the type of insulation you are using for each can, as well as the environmental conditions for each can (example: sun, shade, grass, concrete).

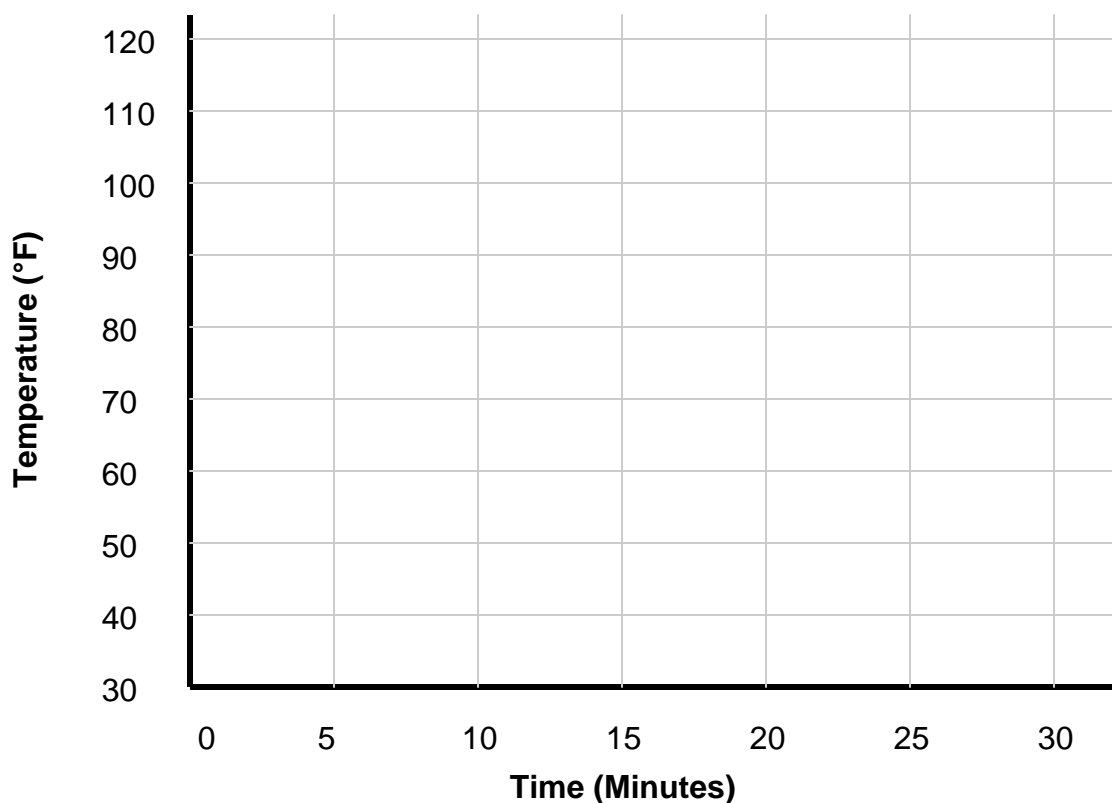
Can 1: \_\_\_\_\_

Can 2: \_\_\_\_\_

2. Using a clock to keep time, record the water temperature for each can in the chart below.

		Time (Minutes)						
Temperature (°F)		0	5	10	15	20	25	30
	Can 1							
	Can 2							

3. Graph each can's temperature. Make a dot on the grid for each temperature reading for Can 1. Then connect the dots with a crayon or pen. Do the same for Can 2, but use a different color to connect the dots.



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**4. Did one can cool faster than the other? Why?**

**5. If your class used different types of insulation for each can, which one did the best at insulating the can? Why?**

**6. If you had to live outside during winter, what types of clothing would you use to insulate yourself from the cold?**